CLAIMS

1. A method of bending glass panes (2) heated to their softening temperature in the horizontal position, having the following characteristics:
   - the panes (2) are heated to their bending temperature in a furnace,
   - the panes (2) are brought between a concave bending frame (4), the shaping surfaces of which describe a smaller contour than the external dimensions of the panes (2), and a convex upper form with a solid surface (3),
   - the panes (2) are pressed between the bending frame (4) and the upper form (3) so that the panes (2) assume, at least at certain points, the contour of the upper form (3) (first press-bending step),
   - a frame-shaped final-bending frame (5), the shaping surfaces of which correspond to the final shape of the panes (2), is brought into contact with the protruding marginal regions of the panes (2), and the panes (2) are pressed against the upper form (3) (second press-bending step),
   - the panes (2) on which the bending operation has been completed are subjected to a cooling or quenching treatment.

2. The method as claimed in claim 1, **characterized in that** the bending frame (4) remains compressed during the second press-bending step 2.

3. The method as claimed in claim 1 or 2, **characterized in that** the bending frame (4) and the upper form (3) are removed from the panes (2) after the second press-bending step and in that the panes (2) are conveyed to the cooling or quenching treatment location with the aid of the final-bending frame (5).

4. The method as claimed in claim 3, **characterized in that** the final-bending frame (5) serves as a quenching frame.

5. The method as claimed in claim 1 or 2, **characterized in that**
   - the bending frame (4) and the final-bending frame (5) are removed from the panes (2) after the second press-bending step,
   - the panes (2) are held by means of differential pressure on the upper form (3),
   - the panes (2) are deposited from the upper form (3) onto a conveying device,
   - the panes (2) are conveyed by means of the conveying device to the cooling or quenching treatment location.

6. The method as claimed in claim 5, **characterized in that** the conveying device is a quenching frame on which the panes (2) are prestressed.

7. The method as claimed in any one of the preceding claims, **characterized in that** the first and/or the second press-bending step is assisted by differential pressure.

8. The method as claimed in any one of the preceding claims, **characterized in that** the final-bending frame (5) used is a multipart bending frame and in that final bending is achieved by pivoting one or more parts of the bending frame.

9. A device for bending panes (2) heated to their softening temperature, in particular for implementing the method as claimed in any one of the preceding claims, the device comprising
   - a furnace for heating the panes (2),
   - a concave bending frame (4) for preforming the heated panes (2),
   - a convex upper form (3) with a solid surface,
   - a frame-shaped final-bending frame (5) with a concave shaping surface which substantially corresponds to the final shape of the panes (2),

- means for moving the bending frame (4), the final-bending frame (5) and the upper form (3) relative to one another,
- means for conveying the panes (2) on which the bending operation has been completed to a cooling or quenching station.

10. The device as claimed in claim 9, **characterized in that** the bending frame (4) has an outer contour which is smaller than the surface circumscribed by the final-bending frame (5), with the result that the final-bending frame (5) can be guided through the bending frame (4) and at the same time compressed therewith against the panes (2).

11. The device as claimed in claim 9 or 10, **characterized in that** the bending frame (4) is provided with shaping surfaces which touch the panes (2) only at certain points.

12. The device as claimed in any one of the preceding device claims, **characterized in that** the final-bending frame (5) is designed as a quenching frame.

13. The device as claimed in any one of the preceding device claims, **characterized in that** the final-bending frame (5) is designed as a multipart bending frame with pivotable shaping surfaces.

14. The device as claimed in any one of the preceding device claims, **characterized in that** the upper form (3) is equipped with means for generating a negative pressure between the shaping surface of the upper form (3) and the surface of the panes (2) extending above.